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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/621,388	07/18/2003	Satoshi Okamoto	Q76473	2458

23373 7590 07/12/2006

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WASHINGTON, DC 20037

EXAMINER
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JACKSON, MONIQUE R

ART UNIT	PAPER NUMBER
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1773

DATE MAILED: 07/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/621,388

**Applicant(s)**

OKAMOTO ET AL.

**Examiner**

Monique R. Jackson

**Art Unit**

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**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 April 2006.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,2,5 and 7-14 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1,2,5 and 7-14 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

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### **DETAILED ACTION**

1. The amendment filed 4/28/06 has been entered. Claims 3, 4 and 6 have been canceled. Claims 1, 2, 5 and 7-14 are pending in the application.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

#### ***Claim Rejections - 35 USC § 112***

3. Claims 1, 2, 5 and 7-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Amended Claim 1 now recites that the polyester comprises a structural unit of the formula (I), formula (II), and formula (III), and “wherein each structural unit combines through ester-bonding and wherein in an amount of from 55 to 60% by mol based on total structural units.” An amount of what? Each structural unit? That would result in greater than 100% by mol. The total of all three structural units? Considering there is no indication as to what the percentage range refers, one having ordinary skill in the art would not be reasonably apprised of the scope of the claimed invention and could not interpret the metes and bounds of the claim so as to understand how to avoid infringement.

#### ***Claim Rejections - 35 USC § 102***

4. Claims 1, 2, 5, and 7-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Stack et al for the reasons recited in the prior office action and restated below wherein the Examiner has assumed the 55 to 60% by mol limitation of instant claim 1 refers to the amount of (I) as recited in original claim 4.

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5. Stack et al teach liquid crystalline polyester molding composition comprising an all-aromatic, liquid crystalline polyester consisting essentially of terephthalic acid (TA) residues (instantly claimed structural unit IV), 2,6-naphthalenedicarboxylic acid (N) residues (instantly claimed structural unit III), hydroquinone (HQ) residues (instantly claimed structural unit II), and p-hydroxybenzoic acid (PHB) residues (instantly claimed structural unit I), particularly useful for manufacturing circuit boards and electrical connectors for use in various electronic devices; wherein Stack et al specifically teach molded films formed from liquid crystalline polyesters having a TA, N, HQ and PHB content that read upon the instantly claimed amounts and ratios; and specifically recite in the claims that the PHB unit is provided in an amount of 17 to 67mol% based on 100% of the above residues and that the TA:N (IV:III) ratio is from 10:90 to about 60:40 (Abstract; Examples, particularly Ex. 1, 8, and 10; Claims; *which fully encompasses the claimed range of 55-60% by mol and equates to a ratio of III:IV of 40:60 to 90:10 which also reads upon the claimed ratio of instant claim 7.*)

***Claim Rejections - 35 USC § 103***

6. Claims 9-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stack et al in view of the admitted prior art for the reasons recited in the prior office action and restated below.

The teachings of Stack et al are discussed above. Though Stack et al teach that the liquid crystalline polyester composition is useful in the production of circuit boards, particularly as molded thin articles useful as supports for circuit boards and/or connectors for electrical/electronic applications, Stack et al do not specifically teach laminating the liquid crystalline polyesters with a metal layer, particularly copper. However, considering it is well known and conventional in the art to laminate the liquid crystalline polyester or resin film with a

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metal layer in producing printed wiring boards, as taught by the admitted prior art (Page 1, Background), it would have been obvious to one having ordinary skill in the art at the time of the invention. Further, copper is an obvious species of metal, as well as the other metals instantly claimed, utilized for the metal layers of printed wiring boards and would have been obvious to one having ordinary skill in the art at the time of the invention.

***Response to Arguments***

7. Applicant's arguments filed 4/28/06 have been considered but are not persuasive. The Applicant argues that Stack et al do not teach an amount of structural unit (I) of 55 to 60% by mol as instantly claimed. However, as discussed above, Stack et al specifically teach that the PHB is provided in an amount of 17-67mol % which fully encompasses the claimed range, and further provide examples at 42.8 and 61.4 mol%. Though Stack et al do not teach specific examples that fall within the claimed 55 to 60%, the Examiner takes the position that Stack et al teaches the claimed range with sufficient specificity to constitute anticipation, particularly since there is no evidence on the record of unexpected results within the claimed narrow range over the broader range taught by Stack et al or the more narrow range of 42.8 to 61.4 mol% obtained from the examples taught by Stack et al (refer to MPEP 2131.03.) Similarly, the Examiner takes the position that the Applicant's arguments with respect to the ratio of III/IV is not persuasive considering Stack et al specifically teach a TA:N (IV:III) ratio of from 10:90 to about 60:40, hence a III:IV ratio of 40:60 to 90:10, and further teach in the cited examples a ratio of 70:30 (Ex. 1), 80:20 (Ex. 8), and 71:29 (Ex. 10), all of which fall within the claimed range. Hence, the Examiner takes the position that Stack et al teach the claimed ratio of N:T (or TA:N) with

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sufficient specificity to constitute anticipation, particularly since Stack et al provide examples that fall within the claimed range.

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

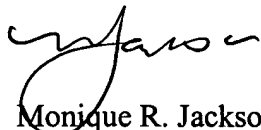
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monique R. Jackson whose telephone number is 571-272-1508. The examiner can normally be reached on Mondays-Thursdays, 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney can be reached on 571-272-1284. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Monique R. Jackson  
Primary Examiner  
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July 7, 2006